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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/556,933	11/10/2005	Jacek Maslanka	333669-00006	5573

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EXAMINER

BERNS, DANIEL J

ART UNIT	PAPER NUMBER
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4162

MAIL DATE	DELIVERY MODE
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09/26/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/556,933	Applicant(s) MASLANKA ET AL.	
	Examiner DANIEL BERNS, ESQ.	Art Unit 4162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☒ Claim(s) 1, 3 and 4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11-10-2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4-11-2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I (claims 1-4) in the reply to Examiner's 7/2/2008 restriction requirement filed on 8/26/2008 is acknowledged. Claim 5 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 8/26/2008 as noted above.
2. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

4. The disclosure is objected to because of the following informalities: paragraph 0028 of applicant's Pre-grant Publication, No. US 2006/0287197 (published 12/21/2006), contains the term "doming[.]" This term appears to be a misspelling of the term "coming[.]" and has been treated as such for examination purposes. Paragraph 0029 thereof contains the term "Kontent[.]" which appears to be a misspelling of the term "Content[.]" and has been treated as such for examination purposes. Paragraph 0035 thereof contains the term "GaO[.]" which appears to be a

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misspelling of “CaO[,]” and has been treated as such for examination purposes. Appropriate corrections are required. Should applicant desire interpretation(s) other than those set forth herein, applicant must explicitly so state in replying to this Office Action.

5. Applicant is hereby noticed that the Application contains pervasive grammatical and/or spelling errors, requiring significant and diligent revision while taking care not to introduce new matter therein. The specification currently appears to be a rough and/or mechanical translation of the domestic Polish application (No. P-360102, filed 5/13/2003) to which priority is claimed. Said revision will help engender readers thereof with a more thorough understanding of Applicant's claims and disclosure, and more fully disseminate Applicant's creation to the public. This clarity in communicating the claims and disclosure to the public is part of the *quid pro quo* for the “...limited Times ... [of] exclusive Right[]” afforded to inventors, *should their invention(s) become patented*, to “...promote the Progress of Science and useful Arts[]” as intended by the U.S. Constitution. *See* U.S. Const. Art. I, §8, cl. 8.

Claim Objections

6. Claim 1 is objected to because of the following informalities: the term “20÷60% by weight” is not in proper grammatical/colloquial form. It appears that this phrase should read “20-60% by weight” (dash instead of division sign), and has been treated as such for examination purposes. Additionally, the claim contains the term “doming” in line 8 thereof, which has been treated as a misspelling of the word “coming” for examination purposes. Appropriate corrections are required.

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7. Claim 3 is objected to because of the following informalities: the term “doming” in line 2 thereof appears to be a misspelling of the word “coming,” and has been treated as such for examination purposes. Appropriate correction is required.

8. Claim 4 is objected to because of the following informalities: the term “linker” appears to be a misspelling of the word “clinker,” the latter term being more contextually apt to the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 1-4 are rejected under 35 U.S.C. 112, 2nd paragraph for the reasons that follow.

11. Claim 1 recites the limitation "the mixture" in ln. 4-5 thereof. There is insufficient antecedent basis for this limitation in the claim. Claim 1 is also rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Namely, the terms “beneficially” (*see* ln. 5 thereof) and “especially” (*see* ln. 9 thereof) are capable of differing interpretations as to whether the terms following are merely preferred but optional embodiments or required limitations of the claim. Said claim is also indefinite in that ln. 2 thereof recites "calcium carbonate and/or fly ashes," whereas the claim later appears to require both calcium carbonate and fly ashes (*see* ln. 7-8 and 11-12 thereof). Applicant is hereby advised that, since independent claim 1 is being rejected for deficiencies under 35 U.S.C. 112, 2nd paragraph, all claims depending therefrom also inherently contain such deficiencies - cure thereof is required for any and all such claims affected even if any such claim were found to be otherwise allowable.

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12. Claim 2 recites the limitation "the highly reactive calcium sorbents" in ln. 1-2 thereof.

There is insufficient antecedent basis for this limitation in the claim. Claim 2 is also rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Namely, the term "especially" (*see* ln. 5 thereof) is capable of differing interpretations as to whether the terms following are merely preferred but optional embodiments or required limitations of the claim. Said claim is also indefinite in that ln. 2-3 thereof recite "calcium carbonate and/or fly ashes," whereas the claim later appears to require fly ashes (*see* ln. 5 and 8 thereof).

13. Claim 3 recites the limitation "the dry desulfurization" in ln. 4 thereof. There is insufficient antecedent basis for this limitation in the claim. Claim 3 is also rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Namely, the terms "especially" (*see* ln. 2 thereof) and "beneficially" (*see* ln. 9 thereof) are capable of differing interpretations as to whether the terms following are merely preferred but optional embodiments or required limitations of the claim.

14. Claim 4 rejected as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (BPAI 1989), as to where broad language is followed by "such as" and then narrow language.

The Board stated that this can render a claim indefinite by raising a question or doubt as to

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whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (BPAI 1961); *Ex parte Hall*, 83 USPQ 38 (BPAI 1948); and *Ex parte Hasche*, 86 USPQ 481 (BPAI 1949). In the present instance, claim 4 recites the broad recitation “1 to 51% by weight are used,” and the claim also recites “beneficially 5 to 20% by weight[]” which is the narrower statement of the range/limitation. Claim 4 is also rejected for failing to provide proper antecedent bases for the terms “[m]ethod for manufacturing” and “the Portland cement[.]”

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

16. Claims 3-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Polish Pat. No. PL 180,380 (appears in applicant’s Information Disclosure Statement – “IDS”) (“PL ‘380”). PL ‘380 discloses a method of obtaining binding materials from power boiler ash (esp. from fluidized-bed reactors where dry desulfurization is employed), wherein such ash contains 25-45 wt. % silica, 3-25 wt. % alumina, 10-40 wt. % CaO, 5-15 wt. % SO₃ and 0-51 wt. % activator, the ash being mechanically de-agglomerated and activated through free particle collisions at speeds of at least 8 m/s. *See id.* at p. 2, par. 1-2 following claims; p. 3, full par. 3; clm. 1. PL ‘380’s activator is preferably used Portland cement, slag or clinker thereof, preferably present in amounts between 0.1-51 wt. %. *See id.* at p. 3, full par. 4; clm. 2. A specific composition of ash

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from a fluidized-bed reactor listed therein is as follows: 35.80 wt. % silica, 19.10 wt. % alumina, 20.00 wt. % CaO, 8.67 wt. % SO₃, remainder (16.43 wt. %) other compounds. *See id.* at p. 4, Ex. 1. PL '380 further discloses addition of Portland cement activator in such an amount as to give a 9:1 ash:cement wt. ratio (i.e.: 11.11 wt. % promoter). *See id.* at p. 5, Ex. 2 and full par. 3. The disclosed ranges and specific values either fall within or encompass those claimed, thus anticipating the same. *See, e.g., Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (internal citations omitted); MPEP 2131.03.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Polish Pat. No. PL 345,913 (appears in applicant's IDS) ("PL '913") in view of Scheetz, B. E. & Earle, R. "Utilization of fly ash," Current Opinion in Solid State & Materials Science (1998) 3:510-520 ("Scheetz"). Regarding claim 1, PL '913 discloses a method for producing highly reactive Ca-based sorbents obtained from CaCO₃ and/or fly ash, wherein CaCO₃ grains are at least 92 wt. % pure CaCO₃ and below 150 µm in diameter (and preferably 30 µm), said grains being mixed with fly ash from the combustion of coal fuels (esp. in fluidized-bed and/or powdered fuel furnaces, where dry desulfurization is employed) – the fly ash containing 4-40 wt. % CaO, 25-45 wt. % silica, and 3-37 wt. % alumina, where the overall CaCO₃-fly ash mixture is 20-60 wt. % CaCO₃ (preferably 40 wt. % CaCO₃) – the particulate mixture being mechanically de-

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agglomerated and activated through free particle collisions at speeds of at least 8 m/s. *See id.* at p. 2, full par. 4; clm. 2. One specific mixture example employed was as follows: fly ash containing 39 wt. % silica, 21 wt. % alumina, 15 wt. % CaO, and remainder other compounds was mixed with CaCO₃ (95.6 wt. % pure CaCO₃, <150 µm particle diameter particles) to give an overall mixture of 40 wt. % CaCO₃. *See id.* at p. 6, Ex. 2. However, PL '913 fails to disclose the presence of 5-15 wt. % SO₃ within its fly ash mixture component. This limitation, though, is taught by Scheetz. Scheetz teaches SO₃ wt. % values in various fly ashes of 1.1, 5.0, 13.0 and 20.8. *See* Scheetz at pp. 512-513 (Tables 3 and 5). Such SO₃ wt. % values render the claimed SO₃ range unpatentable - *see, e.g., In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) (holding that a *prima facie* case of obviousness exists where claimed ranges "overlap or lie inside ranges disclosed by the prior art"), *see also* MPEP § 2144.05 - it would thus have been obvious to one of ordinary skill in the art at the time of the invention given Scheetz's teachings that fly ash such as PL '913's would contain an SO₃ content of 5-15 wt. %.

19. Regarding claim 2, PL '913 discloses a method of obtaining highly reactive calcium sorbents obtained from CaCO₃ and/or fly ash (such fly ash obtained from coal fuel combustion, esp. in fluidized-bed and powdered-fuel furnaces, where dry desulfurization is employed) - the fly ash containing 4-40 wt. % CaO, 25-45 wt. % silica, and 3-37 wt. % alumina - said precursor materials being mechanically de-agglomerated and activated through free particle collisions at speeds of at least 8 m/s. *See id.* at p. 2, full par. 5; clm. 3. A specific composition is disclosed at p. 6, Ex. 2 as previously described. Again, while PL '913 fails to disclose the presence of 5-15 wt. % SO₃ within its fly ash mixture component, said limitation is taught by Scheetz. *See* Scheetz at pp. 512-513 (Tables 3 and 5). Given Scheetz's above-detailed teaching of various fly

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ash SO₃ wt. % contents, it would have been obvious to one of ordinary skill in the art at the time of the invention that fly ash such as PL '913's would contain 5-15 wt. % SO₃. *In re Wertheim*; MPEP 2144.05.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL BERNES, ESQ. whose telephone number is (571)270-5839. The examiner can normally be reached on Monday thru Thursday, 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached at (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DB/ September 18, 2008

/Jennifer McNeil/
Supervisory Patent Examiner, Art Unit 4162